

PUBLIC SAFETY DEPARTMENT[661]

Adopted and Filed

Rule making related to liquefied petroleum gas

The State Fire Marshal hereby amends Chapter 226, “Liquefied Petroleum Gas,” Iowa Administrative Code.

Legal Authority for Rule Making

This rule making is adopted under the authority provided in Iowa Code sections 101.1(1), 101.2, 101.4, and 101.5.

State or Federal Law Implemented

This rule making implements, in whole or in part, Iowa Code chapter 101.

Purpose and Summary

The purpose of the amendments to Chapter 226 is to update code requirements and incorporate new industry standards within the industry.

These amendments update the current standards in order to adopt the most recent editions of the National Fuel Gas Code and the Liquefied Petroleum Gas Code that have been developed by the National Fire Protection Association (NFPA). The NFPA standards are designed to mitigate risks and to ensure safe installation of liquefied petroleum gas storage, handling, transportation, and use and to prevent failures, leaks, and tampering that could lead to fires and explosions. The most recent standards reflect industry standards and promote safety. Liquefied petroleum gas is a clean-burning fossil fuel that is primarily produced domestically. It can be adapted for many uses, and its use has increased in popularity in residential, agricultural, and commercial markets in the United States and elsewhere. Domestic and global demand is expected to increase markedly in the next five years. Safety standards are important for any fuels that can create public safety hazards, and adoption of the current national standards reflects the current state of knowledge and experience in the industry.

Public Comment and Changes to Rule Making

Notice of Intended Action for this rule making was published in the Iowa Administrative Bulletin on July 3, 2019, as **ARC 4521C**. No public comments were received. One change from the Notice has been made to correct an error in subparagraph 226.4(1)“a”(2). The proposed amendment cited the 2018 edition of the NFPA 58 Liquefied Petroleum Gas Code, and it has been revised to cite the 2017 edition instead.

Adoption of Rule Making

This rule making was adopted by the State Fire Marshal on August 7, 2019.

Fiscal Impact

This rule making has no fiscal impact to the State of Iowa.

Jobs Impact

After analysis and review of this rule making, no impact on jobs has been found.

Waivers

Any person who believes that the application of the discretionary provisions of this rule making would result in hardship or injustice to that person may petition the Department for a waiver of the discretionary provisions, if any, pursuant to rule 661—10.222(17A).

Review by Administrative Rules Review Committee

The Administrative Rules Review Committee, a bipartisan legislative committee which oversees rule making by executive branch agencies, may, on its own motion or on written request by any individual or group, review this rule making at its [regular monthly meeting](#) or at a special meeting. The Committee's meetings are open to the public, and interested persons may be heard as provided in Iowa Code section 17A.8(6).

Effective Date

This rule making will become effective on October 2, 2019.

The following rule-making actions are adopted:

ITEM 1. Amend rule 661—226.1(101) as follows:

661—226.1(101) General requirements. The provisions of the National Fire Protection Association, NFPA 54, ANSI Z223.1-2015 2018 National Fuel Gas Code, 2015 2018 edition, and NFPA 58, Liquefied Petroleum Gas Code, 2014 2017 edition, published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471, and all references contained therein, are hereby adopted by reference as the general requirements for transportation, storage, handling, and use of liquefied petroleum gas, with the following amendments:

Amend NFPA 54, ANSI Z223.1-2015 2018 National Fuel Gas Code, 2015 2018 edition, as follows:

Delete section 7.3.5.2 and insert in lieu thereof the following new section:

7.3.5.2 Gas piping underground, outside a building, shall not be in physical contact with any concrete. Where it is necessary to install piping that will extend through or under an exterior concrete slab for connection to a regulator or other part of the system, before entering a building, the gas piping shall be sleeved. The sleeve shall extend through the concrete and be sealed only at the end extending above grade to prevent the entrance of insects, debris, or moisture. All piping, fittings, and risers shall be protected against corrosion in accordance with NFPA 54, National Fuel Gas Code, 2015 2018 edition, section ~~5-6-6~~ 7.2.2.

Delete section 8.2.1 and insert in lieu thereof the following new section:

8.2.1 Leak checks using fuel gas (propane vapor) shall be permitted in piping systems that have been pressure-tested in accordance with 661—subrule 226.5(1).

Amend NFPA 58, Liquefied Petroleum Gas Code, 2014 2017 edition, as follows:

Properties of LP-gases shall be determined in accordance with Annex B of NFPA 58.

Delete section 4.3.1 and insert in lieu thereof the following new section:

4.3.1 Stationary installations. Where a stationary installation utilizes a storage container of more than 2,000 gallons (7,570 L) of individual water capacity, or the aggregate water capacity of storage containers is more than 4,000 gallons (15,140 L) in water capacity, the installer shall submit plans (Liquid Propane Plan – DIVISION OF STATE FIRE MARSHAL) for such installation to the state fire marshal for review and approval. Installation shall not commence until written approval from the state fire marshal has been received. The local fire department [city or county where the tank(s) is located] shall be advised of each installation.

Delete section 5.2.3 and insert in lieu thereof the following new section:

5.2.3 Cylinders filled on site at the point of use.

5.2.3.1 ~~DOT cylinders~~ Cylinders in stationary service that are filled on site at the point of use and, therefore, are not under the jurisdiction of the DOT shall comply with one of the following criteria:

(1) The cylinders shall be requalified in accordance with DOT requirements.

(2) The cylinders shall be visually inspected within 12 years of the date of manufacture and within every 5 years thereafter, in accordance with 5.2.3.2 through 5.2.3.4.

5.2.3.2 Any cylinder that fails to meet one or more of the criteria in 5.2.3.4 shall not be refilled or continued in service until the condition is corrected.

5.2.3.3 Personnel shall be trained and qualified to perform inspections. Training shall be documented in accordance with rule 661—226.4(101).

5.2.3.4 Visual inspection shall be performed in accordance with the following:

(1) The cylinder is checked for exposure to fire, dents, cuts, digs, gouges, and corrosion according to CGA C-6-2007 2013, Standard for Visual Inspection of Steel Compressed Gas Cylinders, ~~tenth~~ eleventh edition, except that 5.2.1.1(1) of that standard (which requires tare weight verification) shall not be part of the required inspection criteria.

(2) The cylinder protective collar (where utilized) and the foot ring are intact and are firmly attached.

(3) The cylinder is painted or coated to minimize corrosion.

(4) The cylinder pressure relief valve indicates no visible damage, corrosion of operating components, or obstructions.

(5) There is no leakage from the cylinder or its appurtenances that is detectable without the use of instruments.

(6) The cylinder is installed on a firm foundation and is not in contact with the soil.

(7) A cylinder that passes the visual examination is marked with the month and year of the examination followed by the letter E (e.g., “10-01E,” indicating requalification in October 2001 by the external inspection method) and the requalifier identification number (RIN) in accordance with the requalifying agency’s permit issued by the DOT.

(8) The results of the visual inspection are documented, and a record of the inspection is retained for a 5-year period or until the cylinder is again requalified, whichever occurs first.

Delete section ~~6.6.7.1~~ 6.8.7.1 and insert in lieu thereof the following new section:

~~6.6.7.1~~ **6.8.7.1** Installation of permanent, stationary containers on roofs of buildings shall be prohibited.

Delete section ~~6.6.7.2~~ 6.8.7.2.

Delete section ~~6.7.2.7~~ 6.9.2.7 and insert in lieu thereof the following new section:

~~6.7.2.7~~ **6.9.2.7** The pressure relief valve discharge on each aboveground container of more than 2000-gal (7.6 m³) water capacity shall be piped vertically upward to a point at least 7 ft (2.1 m) above the top of the container, and the discharge opening shall be unobstructed to the open air.

Delete section ~~6.9.3.14~~ 6.11.3.14 and insert in lieu thereof the following new section:

~~6.9.3.14~~ **6.11.3.14** Metallic piping shall be protected against corrosion in accordance with ~~6.9.3.14(A)~~ 6.11.3.14(A) through ~~6.9.3.14(C)~~ 6.11.3.14(C). Underground gas piping that is outside a building shall not be in physical contact with any concrete.

(A) Piping and tubing of 1-inch (25 mm) nominal diameter or smaller shall be protected in accordance with ~~6.17.1~~ 6.19.1 or ~~6.17.2~~ 6.19.2.

(B) Piping and tubing larger than 1-inch (25 mm) nominal diameter and installed aboveground shall be protected in accordance with ~~6.17.1~~ 6.19.1.

(C) ~~Steel piping larger than 1-inch (25 mm) nominal diameter installed underground shall have a cathodic protection system in accordance with 6.17.2(C) unless technical justification is approved by the authority having jurisdiction~~ Steel piping installed underground shall have a cathodic protection system in accordance with 6.19.2(C) unless technical justification is approved by the Authority Having Jurisdiction.

Delete section ~~6.14~~ 6.16 in its entirety.

Delete section ~~6.15~~ 6.17 in its entirety.

Delete paragraph ~~6.20.1.2(C)~~ 6.22.1.2(C) and insert in lieu thereof the following new paragraph:

~~6.20.1.2(C)~~ **6.22.1.2(C)** Cylinders installed permanently on roofs of buildings shall be prohibited.

Delete section ~~6.20.11.1~~ 6.22.11.1, including paragraphs (A) through (F), and insert in lieu thereof the following new section:

~~6.20.11.1~~ **6.22.11.1** Cylinders installed permanently on roofs of buildings shall be prohibited.

Delete section ~~6.20.11.2~~ 6.22.11.2.

Delete section 7.2.1.1 and insert in lieu thereof the following new section:

7.2.1.1 Transfer operations shall be conducted by qualified personnel meeting the provisions of rule 661—226.4(101).

Delete section 11.2 and insert in lieu thereof the following new section:

11.2 Each person engaged in installing, repairing, filling, or otherwise servicing an LP-gas engine fuel system shall be trained in accordance with rule 661—226.4(101) and trained under the applicable installation and maintenance procedures established by the manufacturer.

Delete section 12.4.7.4.3 and insert in lieu thereof the following new section:

12.4.7.4.3 A label indicating the date of the successful test and/or the date of the next required verification test shall be affixed in a clearly identified and easily accessible location. A clearly identified and easily accessible location could be (1) on the container near the fill point, (2) on the stepwell of a bus, (3) on the inside of the doorframe nearest the remote fill location on the vehicle, or (4) on another location as approved by the Authority Having Jurisdiction (AHJ).

Delete section 12.5.2.1 and insert in lieu thereof the following new section:

12.5.2.1* Each person engaged in installing or maintaining an LP-gas engine fuel system shall be trained as follows:

- (1) In accordance with rule 661—226.4(101).
 - (2) With general training on the nature of LP-gas engine fuel systems and their components.
 - (3) With training on the specific LP-gas engine fuel system to be installed or maintained.
- All training shall be documented.

ITEM 2. Amend rule 661—226.4(101) as follows:

661—226.4(101) Qualifications of personnel.

226.4(1) Persons who transfer liquefied petroleum gas, who are employed to transport liquefied petroleum gas, or whose primary duties fall within the scope of this chapter shall be trained in proper handling and emergency response procedures.

a. Training shall include both initial training and refresher training that addresses but is not limited to safe work practices, the health and safety hazards of liquefied petroleum gas, emergency response procedures, and supervised on-the-job training.

(1) Initial training shall include participation in a recognized training program and shall include both a written qualification assessment (closed-book test) and a skills assessment, based on the objectives set forth in the recognized training program and the requirements of NFPA 54 National Fuel Gas Code, ~~2015~~ 2018 edition, NFPA 58 Liquefied Petroleum Gas Code, ~~2014~~ 2017 edition, and any applicable requirements established in this chapter.

(2) Refresher training shall include both a written qualification assessment (closed-book test) and a hands-on skills assessment based on requirements of NFPA 54 National Fuel Gas Code, ~~2015~~ 2018 edition, NFPA 58 Liquefied Petroleum Gas Code, ~~2014~~ 2017 edition, and any applicable requirements established in this chapter.

(3) to (5) No change.

b. No change.

226.4(2) Persons who install, service, test, or maintain propane gas utilization equipment, or gas piping systems of which the equipment is a part, or accessories shall be trained in the proper procedures in accordance with applicable codes.

a. Initial training shall include participation in a training program and shall include both a written qualification assessment (closed-book test) and a skills assessment, based on the objectives set forth in the recognized training program and the requirements of NFPA 54 National Fuel Gas Code, ~~2015~~ 2018 edition, NFPA 58 Liquefied Petroleum Gas Code, ~~2014~~ 2017 edition, and this chapter.

b. Refresher training shall include both a written qualification assessment (closed-book test) and a hands-on skills assessment based on requirements of NFPA 54 National Fuel Gas Code, ~~2015~~ 2018 edition, NFPA 58 Liquefied Petroleum Gas Code, ~~2014~~ 2017 edition, and this chapter.

c. to f. No change.

226.4(3) to 226.4(5) No change.

ITEM 3. Amend paragraph **226.5(2)“a”** as follows:

a. All LP-gas piping systems that have operating pressures of 20 psig or less and all polyethylene and polyamide piping shall have system and equipment leakage tests performed in accordance with this chapter and Section 8.2 of NFPA 54, National Fuel Gas Code, ~~2015~~ 2018 edition.

ITEM 4. Amend subparagraph **226.5(4)“b”(2)** as follows:

(2) The gas customer shall be informed that the container is out of service and a qualified person must perform a leak check or other test on the system as required by this chapter or Section 8.2 of NFPA 54 National Fuel Gas Code, ~~2015~~ 2018 edition, before turning on the container service valve. Further action is the responsibility of the customer.

ITEM 5. Amend rule 661—226.8(101) as follows:

661—226.8(101) Installation and use of DOT specification MC330 or MC331 cargo tanks in stationary service. The installation and use of DOT specification MC330 or MC331 cargo tanks in stationary service shall be in accordance with NFPA 58, ~~2014~~ 2017 edition, and this chapter.

226.8(1) and 226.8(2) No change.

226.8(3) Alternate methods for preventing moisture or water from collecting in any container well may be considered in accordance with the equivalency requirements set forth in NFPA 58, ~~2008~~ 2017 edition, Section 1.5, Equivalency.

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EDITOR’S NOTE: For replacement pages for IAC, see IAC Supplement 8/28/19.